

## ABSTRACT

A self-adjusting data transmitter driver can be used for transmission of analog or digital data signal over any suitable communication channel, such as, for example, optical, electrical, wireless and satellite. The optical transmitter driver may be used to drive a single laser as well as an array of lasers. An optical transmitter driver including a laser diode driver can be used to provide modulation and bias currents to drive a laser diode in an optical communication system. A high speed photodiode is used to monitor high frequency characteristics of the optical data signal while one or more photodiodes are used to detect source parameters of the optical data signal. To compute the feedback parameters, parameters including BER, data-eye, discrete optical data integrity parameters and discrete optical parameters are determined using the feedback detectors. The feedback parameters are used to adjust the optical quality of the laser output towards optimization.